

Abstract of the Disclosure

A system for control signal generation using detected dynamic characteristics of components of an incoming electronic signal. Fixed or adjustable bandpass filters are coupled to signal parameter measurement elements. Each filter isolates a particular overtone component from the incoming electronic signal for isolated signal parameter measurement. Pitch and amplitude of a plurality of overtones may be individually measured. A control signal processor generates one or more outgoing control signals based upon one or more isolated overtone parameter signals. The control signal processor may use these to generate individual associated output signals, subject to optional mathematical operations and warpings, or combine measured parameters of several overtones via mathematical operations to other output signals. The invention may be used to enhance audio-to-MIDI converters, or as an add-on to a traditional fundamental-pitch based audio-to-MIDI converters, giving musicians and vocalists valuable new levels of timbre control over audio synthesis and signal processing.